



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,135	07/12/2005	Steven G E Aerts	NL 030052	9781

65913 7590 11/20/2009
NXP, B.V.
NXP INTELLECTUAL PROPERTY & LICENSING
M/S41-SJ
1109 MCKAY DRIVE
SAN JOSE, CA 95131

EXAMINER

NEWLIN, TIMOTHY R

ART UNIT	PAPER NUMBER
----------	--------------

2424

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

11/20/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No. 10/542,135	Applicant(s) AERTS, STEVEN G E	
	Examiner Timothy R. Newlin	Art Unit 2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's arguments with respect to amended claims 1-3 and 11-13 have been considered but are moot in view of the new ground(s) of rejection. The §112 rejection of claims 7 and 17 is withdrawn.

The amendment to claims 2 and 12 does not overcome the previous §103 rejection over Green. It is not sufficiently clear what is meant by the added language. The claim can be reasonably construed to mean that the block *includes multiple I-frames, including one or more from before playback position and one or more from after playback position*. Under this construction, Green meets the limitation and the §103 rejection stands as detailed below. Examiner notes that even under a narrower reading of the language (i.e. *including two or more from before playback position and two or more from after playback position*), the distinction over Green, Boyce, and the prior art in general appears to be obvious.

The amendment to claim 3 is also susceptible to different interpretations. While “standard play mode” could mean *normal speed playback*, it can equally validly be read, for example, to distinguish from a restricted play mode in which trick play is not allowed. In any event, the §103 rejection stands based on the reasoning detailed below which was not traversed by Applicant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9-16, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green et al., US 2002/0168175 in view of Boyce et al., US 5,717,816.

Regarding claims 1 and 11, Green discloses method of caching a part of digital content data from a content source, comprising the steps of:

acquiring the digital content data from the content source, the digital content including I-frames and non-I-frames, said part of the digital content data including interleaved segments of the acquired digital content data **[blocks 550, 551, Fig. 5; MPEG stream may be acquired from signal source 220, paras. 43, 61];**

separating the I-frames from the non-I-frames to generate a block of multiple I-frames that includes temporally disparate I-frames **[I-frame identification module 561 uses the index of I-frames 552 to generate a block of selected I-frames 572, Fig. 5, paras. 61, 75, 77, 79; also see block 372, Fig. 3];**

caching a block of separated I-frames **[selected I-frames 572 (i.e. a block comprising I₁ and I₂) are buffered, Fig. 5, paras. 75, 83; also see block 372, Fig. 3];**

flushing ones of the separated I-frames as a function of a current playback location **[I frames are flushed or “released” as necessary to construct MPEG stream 583, which is displayed according to a playback command, paras. 79-83; playback module constructs the MPEG stream to generate a specific requested playback rate, para. 59; also see para. 109, describing discarding frames as a function of playback];**

caching a portion of the digital content data that includes both the I-frames and the non-I-frames **[MPEG signal received from signal source 220, including I-, P-, and B-frames, the signal is stored (i.e. cached) on media 550 before being output to the system bus 540, Figs. 5 and 2, paras. 75, 43, 55];**

accessing the cached digital content data, including both I-frames and non-I-frames, in response to a standard play mode **[regular playback, para. 66; content data is accessed for regular playback by MPEG decoder 525, Fig. 5, para. 74; decoder 272 decompresses MPEG data for display via video output 274, Fig. 2, para. 55];** and

accessing the cached block of I-frames in response to a trick play mode **[I-frames are accessed and used to create MPEG stream for, e.g., a reverse mode, para. 79].**

While Green does separate and cache I-frames as cited above, it is silent on whether the I-frames are cached by themselves, without P- or B-frames. Boyce does disclose separately buffering a block of I-frames without any non-I-frames **[after received I-frames are identified, selected, and compressed, they are separately**

Art Unit: 2424

stored in buffers, Fig. 1A, col. 10, 1-5]. Boyce also explicitly uses the separated I-frames to facilitate trick play **[e.g., Abstract; col. 7, 22-25]**, recording them on a permanent video tape for later access. It would have been obvious to one of ordinary skill to modify Green by excluding P- and B-frames from the buffer in order to reduce memory requirements and yet retain the essential I-frames for a discernible trick play stream. And although Boyce uses the frames for recording rather than immediate display, Green itself suggests the compatibility of the references **[Fig. 2 shows video output 232 connected to both recording and display devices]**.

Regarding claims 2 and 12, Green describes the trick play method without specifically referencing a "current playback position." However, he does describe cached I-frames and describes an embodiment wherein they are used for both forward and reverse trick play. **Paras. 59, 64]**. Official notice is taken that one skilled in the art would recognize the need for I-frames both before and after the current playback position in order to generate both forward and reverse trick play signals. It would have been obvious to have the block of frames meet this condition.

Regarding claims 3 and 13, Green's silence on a replay point means he also does not describe the relative time that storing of I-frames takes place. However, does state that the signal source could be a cable or satellite television signal **[para. 43]**, suggesting the possible display of live content, i.e. the frames are received and displayed at the same time in a standard play mode. In that case, the storing of

Art Unit: 2424

incoming I-frames could not take place other than at or after replay, i.e. in a standard play mode as recited. Therefore, official notice is that one of ordinary skill in the television art knows that live content can be buffered only as it is received, and it would have been obvious to allow system of Green to do so.

Regarding claims 4 and 14, Green discloses a method wherein the number of I-frames in the cached block depends on parameters that include at least a probability of replay and/or an acquisition time **[the number of I-frames selected necessarily depends in part on acquisition time; the system can choose every I-frame, every other I-frame, etc., para. 69]**.

Regarding claims 5 and 15, Green discloses a method characterized in that the digital content data are video data in MPEG format and that the interleaved segments of the acquired digital content data are I-pictures **[e.g. para. 75]**.

Regarding claims 6 and 16, Green discloses a method characterized in that each of the interleaved segments of the acquired digital content data is a continuously acquired part of the digital content data from the content source **[para. 74-79]**.

Regarding claims 9 and 19, Green discloses a method wherein the content source is a storage medium **[para. 75]**.

Regarding claims 10 and 20, Green discloses a method wherein the content source is a remote source and wherein the acquisition of the digital content data comprises receiving the digital content data over a network **[para. 44]**.

Claims 7, 8, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green and Boyce as cited above in view of Logan, US 2004/0255330.

Regarding claims 7 and 17, Green does not teach the use of the buffers as an anti-shock mechanism, but it does disclose caching a contiguous first part of the digital content data, that includes both the I-frames and the non-I-frames, in a second memory **[paras. 75, 78]**. While Green is silent on anti-shock functionality, Logan teaches the accessing of the content buffer in response to an interruption from shock or vibration **[para. 54]**. It would have been obvious to one skilled in the art that the frame buffer exemplified in para. 78 of Green could support Logan's anti-skip function. The motivation from the point of view of Green would be to prevent skipping due to interruption of a remote signal **[paras. 43-44]** rather than shock, but the function is the same regardless of what causes the interruption.

Regarding claims 8 and 18, Green discloses a method wherein the steps of caching are implemented in a single memory circuit **[media 550, Fig. 5]**.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2424

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy R. Newlin whose telephone number is (571) 270-3015. The examiner can normally be reached on M-F, 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Kelley/
Supervisory Patent Examiner, Art
Unit 2424

TRN